REMARKS

In the Office Action, claims 1-3, 5, 10-23, 25-53, 56-71, and 85-88 were rejected. Reconsideration and allowance of all pending claims are requested.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-3, 5, 10-23, 25-53, 56-7, and 85-88 under 35 U.S.C. § 103(a) as being unpatentable over Heiserholt et al. (U.S. Patent No. 6,198, 287, hereinafter "Heiserholt") in view of Opoczynski (U.S. Patent No. 5,453,737, hereinafter Opoczynski"), or in view of various additional references. For example, Funahashi (U.S. Patent Application 2002/0081039, hereinafter "Funahashi"). Applicants respectfully traverse these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). In addressing obviousness determinations under 35 U.S.C. § 103, the Supreme Court in *KSR International Co. v. Teleflex Inc.*, No. 04-1350 (April 30, 2007), reaffirmed many of its precedents relating to obviousness including its holding in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). Specifically, the Court also reaffirmed that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.* at 14. In this regard, the *KSR* court stated that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does ... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* at 14-15. The court further noted that the demonstration of a teaching, suggestion, or motivation to combine provides

a "helpful insight" in determining whether claimed subject matter is obvious. *KSR, slip op.* at 14.

Furthermore, the *KSR* court did not diminish the requirement for objective evidence of obviousness. *Id.* at 14 ("To facilitate review, this analysis should be made explicit. See *In re Kahn,* 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ."); s*ee also, In re Lee,* 61 U.S.P.Q.2d 1430, 1436 (Fed. Cir. 2002) (holding that the factual inquiry whether to combine references must be thorough and searching, and that it must be based on *objective evidence of record*).

When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Federal Circuit has warned that the Examiner must not, "fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *In re Dembiczak*, F.3d 994, 999, 50 U.S.P.Q.2d 52 (Fed. Cir. 1999) (quoting *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983)). Moreover, a statement that the proposed modification would have been "'well within the ordinary skill of the art'"

based on individual knowledge of the claimed elements cannot be relied upon to establish a *prima facie* case of obviousness without some *objective reason to combine* the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d. 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d. 1161 (Fed. Cir. 1999).

Finally, it is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983); M.P.E.P. § 2145. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959); *see* M.P.E.P. § 2143.01(VI). If the proposed modification or combination would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); *see* M.P.E.P. § 2143.01(V).

Claim Features Omitted from Cited References

The Examiner rejected independent claims 1, 21, 36, and 53 under 35 U.S.C. § 103(a) as rendered obvious by Heiserholt in view of Opoczynski. The Examiner also rejected independent claims 56 under 35 U.S.C. § 103(a) as rendered obvious by Heiserholt in view of Opoczynski and in further view of Funahashi. The independent claims recite, *inter alia*, in generally similar language, a medical imaging system providing a safety loop back communications link between a master node and at least one slave node. For example, independent claim 1 recites, *inter alia,* "a slave node for each of a plurality of components of the medical imaging system, wherein the plurality of components of the

medical imaging system comprise image acquisition components, image processing components, user interaction components, monitoring components, or a combination thereof" and "at least one safety loopback communications link between the master node and at least one slave node." In other words, the independent claims recite that the image acquisition components may include at least on safety loopback link between the components and the master node. Further, the specification states that the image acquisition components may include primary magnet 24, gradient coils 26, 28, 30, radio frequency coil 32, and table 20. *See* Specification paragraphs 27-28; *See also*, FIGs. 1 & 4.

Applicants reiterate that neither Heiserholt nor Opoczynski include all of the recited claimed elements if either taken alone or in hypothetical combination. Specifically, the primary reference teaches a principle of operation of a diagnostic magnetic resonance apparatus having components arranged inside a high frequency shielded room and at least one other component outside the high frequency room. *See* Heiserholt, Abstract. Further, an optical bus line is used to connect the components inside the high frequency room (*e.g.*, patient bed) to the components outside the high frequency room via an electro-optical interface. *See* Heiserholt, column 3, lines 36-39. Thus, the principle of operation of the primary reference requires a double light waveguide that is configured as one single continuous optical loop in order to flow the data along the light guide segments. *See* Heiserholt, column 4, lines 13-17. Heiserholt further states that the components are connected in series in order to allow communication between the two neighboring slave nodes. *See* Heiserholt, column 4, lines 9-26. In other words, Heiserholt teaches that an optical bus is used for the communication lines between the patient bed, adjusting and tuning circuit, antenna switching unit, and the related components. Further, this optical bus does not include a safety loopback communications link. Therefore, Heiserholt does not include the recited limitation of an image acquisition component (*e.g.*, patient bed) having at least one safety loopback communications link between the master node and the image acquisition

component. Further, Heiserholt fails to teach or suggest a safety loopback communication link between any of the components, either inside or outside the high frequency room.

Additionally, Opoczynski fails to obviate the deficiencies of Heiserholt. Opoczynski is directed towards a telecommunications system that is unrelated to a medical imaging system altogether and by no means teaches or suggest image acquisition components. Additionally, Opoczynski makes no mention of providing a safety loopback communications link for an optical bus, and therefore like Heiserholt, fails to include the recited element of at least one safety loopback communications link between the master node and an image acquisition component (*e.g.*, patient bed). Likewise, Funahashi fails to obviate the deficiencies of either Heiserholt or Opoczynski. Therefore, none of the references, if either taken alone or in hypothetical combination, include all of the recited claimed elements. For these reasons, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and respectfully request withdrawal of the rejection under 35 U.S.C. § 103.

Improper Combination – References Teach Away From One Another

Applicants reiterate that the primary reference teaches away from using at least one safety loopback communications link between the master node and an image acquisition component. Therefore, Applicants submit that the prior art is not properly combinable. *See In re Grasselli*, 713 F.2d 731 at 743. As summarized above, a proposed modification or combination of references is entirely improper and insufficient to support a *prima facie* case of obviousness, where the proposed modification or combination would change the principle of operation of the cited reference or render the cited reference unsatisfactory for its intended purpose.

In the Final Office Action, the Examiner failed to address the Applicants' assertion that the optical portion of the bus disclosed in Heiserholt must be connected in series to enable communication between neighboring slave nodes. Instead, the Examiner stated that the electrical portion of the bus disclosed in Heiserholt behaves much like the bus in the present application. *See* Final Office Action mailed April 30, 2007, pages 2-3. Clearly, the Examiner is using hindsight reconstruction to pick and choose among isolated disclosures to deprecate the claimed invention. Further, in doing so, the Examiner has failed to meet the requirement that the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination.

Applicants reiterate that Heiserholt teaches a system that requires both an optical bus and an electrical bus with specific components located on each bus portion. In the Final Office Action, the Examiner erroneously ignored the components located on the optical bus, and in doing so, failed to consider Heiserholt as a whole. Specifically, the Examiner failed to address that Heiserholt teaches away from including a safety feedback loop for the image acquisition components located on the optical bus. As discussed, Heiserholt states that the components on the optical bus must be connected in series in order to allow communication between the two neighboring slave nodes. *See* Heiserholt, column 4, lines 24-26. In other words, Heiserholt teaches away from including an independent connection between the master node and the image acquisition components because it would prevent the continuous configuration required for the optical bus.

Additionally, as discussed above, Opoczynski is directed towards a telecommunications system that is unrelated to a medical imaging system altogether. Therefore, Opoczynski does not teach or suggest including a safety feedback loop for either an optical bus or for components disposed in a high frequency room (*i.e.*, image acquisition components) of an imaging system connected via an optical bus. In sum, Applicants believe that the Examiner is using hindsight reconstruction to pick and choose

among isolated disclosures in the prior art to deprecate the claimed invention. In other words, the conclusory statement offered by the Examiner failed to address Applicants' argument that Heiserholt, as a whole, clearly teaches away from including a safety feedback loop for the recited image acquisition components. For these reasons, Applicants respectfully request withdrawal of the foregoing combination and the corresponding rejections under 35 U.S.C. § 103.

Improper Combination - Lack of Objective Evidence of Reasons to Combine

In addition, the Examiner failed to show the requisite motivation or suggestion to modify or combine the cited references to reach the present claims. As summarized above, the Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). In the previous rejection, the Examiner combined the cited references based on the conclusory and subjective statement that it would have been obvious "to include a separate safety loopback communications link for the purpose of transporting important control signals." *See* Office Action mailed October 30, 2006, pages 3-4.

Applicants note that the independent claims are directed to a medical imaging system having a plurality of components that may include different functions or modules. Transporting important control signals between each of these components is but one aspect of the recited claims and may be done via a dual conductor linkage, as recited in the claims. Moreover, the need to transport important control signals by no means suggests that it would have been obvious to include a second independent communications link between the image acquisition components and the master node connected that are connected via an optical bus. Thus, the Examiner has failed to provide objective evidence of the requisite motivation or suggestion to modify or combine the cited references. As discussed above, Heiserholt teaches away from providing a safety

loopback communications link between a master node and an image acquisition component. Further, Opoczynski is directed towards a telecommunications system that is unrelated to a medical imaging system all together. Once again, Applicants believe that the Examiner is using hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Accordingly, Applicants challenge the Examiner to produce objective evidence of the requisite motivation or suggestion to combine the cited references, or remove the foregoing rejection under 35 U.S.C. § 103.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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